No. 8100078

THE UNITED STATES OF AMERICA

TO ALL TO WHOM THESE PRESENTS SHALL COME:

A. L. Castle, Inc.

Whereas, THERE HAS BEEN PRESENTED TO THE

Secretary of Agriculture

AN APPLICATION REQUESTING A CERTIFICATE OF PROTECTION FOR AN ALLEGED NOVEL VARIETY OF SEXUALLY REPRODUCED PLANT, THE NAME AND DESCRIPTION OF WHICH ARE CONTAINED IN THE APPLICATION AND EXHIBITS, A COPY OF WHICH IS HEREUNTO ANNEXED AND MADE A PART HEREOF, AND THE VARIOUS REQUIREMENTS OF LAW IN SUCH CASES MADE AND PROVIDED HAVE BEEN COMPLIED WITH, AND THE TITLE THERETO IS, FROM THE RECORDS OF THE PLANT VARIETY PROTECTION OFFICE, IN THE APPLICANT(S) INDICATED IN THE SAID COPY, AND WHEREAS, UPON DUE EXAMINATION MADE, THE SAID APPLICANT(S) IS (ARE) ADJUDGED TO BE ENTITLED TO A CERTIFICATE OF PLANT VARIETY PROTECTION UNDER THE LAW.

NOW, THEREFORE, THIS CERTIFICATE OF PLANT VARIETY PROTECTION IS TO GRANT UNTO THE SAID APPLICANT(S) AND THE SUCCESSORS, HEIRS OR ASSIGNS OF THE SAID APPLICANT(S) FOR THE TERM OF eighteen YEARS FROM THE DATE OF THIS GRANT, SUBJECT TO THE PAYMENT OF THE REQUIRED FEES AND PERIODIC REPLENISHMENT OF VIABLE BASIC SEED OF THE VARIETY IN A PUBLIC REPOSITORY AS PROVIDED BY LAW, THE RIGHT TO EXCLUDE OTHERS FROM SELLING THE VARIETY, OR OFFERING IT FOR SALE, OR REPRODUCING IT, OR IMPORTING IT, OR EXPORTING IT, OR USING IT IN PRODUCING A HYBRID OR DIFFERENT VARIETY THEREFROM, TO THE EXTENT PROVIDED BY THE PLANT VARIETY PROTECTION ACT (84 STAT. 1542, AS AMENDED, 7 U.S.C. 2321 ET SEQ.)

TOMATO

'Castlerock'

In Testimony Whereof, I have hereunto set my hand and caused the seal of the Plant Variety Protection Office to be affixed at the City of Washington, D.C. this 26th day of November in the year of our Lord one thousand nine hundred and eighty-two

Attest:

Kenneth A. Evo

Acting Commissioner
Plant Variety Protection Office
Grain Division
Agricultural Marketing Service

John R Block

Secretary of Agriculture

8100078

O'MELVENY & MYERS

555 13TH STREET, N.W.
WASHINGTON, D. C. 20004-1109

TELEPHONE (202) 383-5300

TELEX 89622 · FACSIMILE (202) 383-5414

400 SOUTH HOPE STREET
LOS ANGELES, CALIFORNIA 90071-2899
TELEPHONE (213) 669-6000
FACSIMILE (213) 669-6407

EMBARCADERO CENTER WEST
275 BATTERY STREET
SAN FRANCISCO, CALIFORNIA 94111-3305
TELEPHONE (415) 984-8700
FACSIMILE (415) 984-8701

1999 AVENUE OF THE STARS
LOS ANGELES, CALIFORNIA 90067-6035
TELEPHONE (310) 553-6700
FACSIMILE (310) 246-6779

610 NEWPORT CENTER DRIVE
NEWPORT BEACH, CALIFORNIA 92660-6429
TELEPHONE (714) 760-9600
FACSIMILE (714) 669-6994

CITICORP CENTER
153 EAST 53RD STREET
NEW YORK, NEW YORK 10022-4611
TELEPHONE (212) 326-2000
FACSIMILE (212) 326-2061

ONE GATEWAY CENTER
NEWARK, NEW JERSEY 07102
TELEPHONE (201) 639-8600
FACSIMILE (201) 639-8630 • 639-8631

10 FINSBURY SQUARE
LONDON EC2A 1LA
TELEPHONE (0171) 256-8451
FACSIMILE (0171) 638-8205

SANBANCHO KB-6 BUILDING
6 SANBANCHO, CHIYODA-KU
TOKYO 102
TELEPHONE (03) 3239-2800
FACSIMILE (03) 3239-2432

1104 LIPPO TOWER
LIPPO CENTRE
89 QUEENSWAY, CENTRAL
HONG KONG
TELEPHONE (852) 523-8266
FACSIMILE (852) 522-1760

WRITER'S DIRECT DIAL NUMBER
(202) 383-5350

March
16th
1 9 9 5

QUR FILE NUMBER
410,894-14
DC1-211237.V1

VIA FEDERAL EXPRESS

Plant Variety Protection Office
U.S. Department of Agriculture
NAL Building, Room 500
10301 Baltimore Boulevard
Beltsville, Maryland 20705-2351

Attn: Ms. Ann K. Zempolich

Re: **Assignment of Plant Variety Protection Certificates Owned by Sunseeds Company to Internationale Nederlanden (U.S.) Capital Corporation, as agent for the Lenders party to the Amended and Restated Credit Agreement Referred to Below**

Dear Ladies and Gentlemen:

Enclosed please find an originally executed copy of each of (i) the Amended and Restated Security Agreement (the "Security Agreement") dated as of March 14, 1995 by and between Sunseeds Company, a Delaware corporation (formerly known as Sunseeds Acquisition Corporation) ("Sunseeds"), and Internationale Nederlanden (U.S.) Capital Corporation, a Delaware corporation ("ING"), as agent for the Lenders party to the Amended and Restated Credit Agreement referred to below (in such capacity, the "Agent") and (ii) the Amended and Restated Plant Variety Certificates Collateral Assignment (the "Assignment") dated as of March 14, 1995 by and among Lehman Commercial Paper Inc., a New York corporation ("Lehman"), ING, as Agent, and Sunseeds. The Security Agreement and Assignment are provided for recordation of the assignment to ING, as Agent, of the 26 plant variety protection certificates ("PVPCs") listed in Schedule I of the Assignment in accordance with 7 U.S.C. § 2531 and 7 C.F.R. § 97.130.

The PVPCs subject to the Assignment were assigned to Lehman, as agent for the lenders party to that certain Credit Agreement (the "Original Credit Agreement") dated as of March 31, 1994 by and among Sunseeds, Sunseed Corporation, a Delaware corporation (the Co-Borrower"), Lehman, as agent, and the lenders

listed therein, pursuant to that certain Plant Variety Certificates Collateral Assignment (the "Original Assignment") dated as of March 31, 1994 by and between Sunseeds and Lehman, as agent for such lenders. The Original Credit Agreement was amended and restated pursuant to that certain Amended and Restated Credit Agreement dated as of March 14, 1995 by and among Sunseeds, the Co-Borrower, the Lenders, ING, as Agent, and Lehman, to provide for, among other things, the resignation of Lehman as agent and the appointment of ING as successor agent thereto. In connection therewith, the Security Agreement and the Assignment were entered into to amend and restate that certain Security Agreement dated as of March 31, 1994 by and between Sunseeds and Lehman, as agent for the lenders party to the Original Credit Agreement, and the Original Assignment and to reflect the appointment of ING as Agent.

From my telephone conversations with Ms. Ann K. Zempolich and Dr. Kenneth H. Evans of your office, it is my understanding that you will file a copy of this entire cover letter and a copy of Schedule I in the folder of each PVPC listed in Schedule I by placing the copies immediately behind each PVPC in order to notify anyone examining these PVPCs of ING's interest, as agent, in them and refer the examiner to the Security Agreement and Assignment filed in the Assignment Drawers of the Plant Variety Protection Office. Please take this action and any other steps necessary and appropriate to record the assignment in compliance with 7 U.S.C. § 2531 and 7 C.F.R. § 97.130.

To acknowledge your receipt of this letter, the Security Agreement and Assignment, please sign the enclosed copy of this letter on the designated signature line and return the signed copy to me in the enclosed prepaid Federal Express envelope. Thank you for your assistance.

Sincerely,

Ellen Waldorf

Ellen Waldorf
for O'MELVENY & MYERS

EW/pt
Enclosure

SCHEDULE I

PVPCs

COLLATERAL ASSIGNMENT - PLANT VARIETY PROTECTION CERTIFICATES

PV#	Crop Kind	Name of Variety	Certificate Issue Date	Expiration Date
8100077	Tomato	Castlong ug	11/26/82	11/26/2000
8100078	Tomato	Castlerock	11/26/82	11/26/2000
8200139	Tomato	Castle Red	11/26/82	11/26/2000
7900076	Onion	Colossal	10/18/79	10/18/1996
7900086	Onion	New Mexico White Grano PRR	10/18/79	10/18/1996
7900117	Onion	New Mexico Yellow Grano PRR	01/29/80	01/29/1997
8000039	Onion	Red Sunset	07/31/80	07/31/1997
8000040	Onion	Blanco Duro	07/31/80	07/31/1997
8000041	Onion	Brooks PRR	07/31/80	07/31/1997
8000159	Onion	Texspan PRR	06/11/81	06/11/1999
8000161	Onion	Early Grand PRR	07/30/81	07/30/1999
8100128	Onion	Glory	04/28/83	04/28/2001
8100129	Onion	Paradise	04/28/83	04/28/2001
8100130	Onion	Regal	04/28/83	04/28/2001
8100166	Onion	Sweet Winter	11/26/82	11/26/2000
8300083	Onion	Crystal Wax Pickling	12/30/83	12/30/2001
9100045	Tomato	Sun 6095	01/31/92	01/31/2010
7600052	Lettuce	Chaparral	05/16/77	05/16/1994
7600053	Lettuce	Costaverde	08/24/77	08/24/1994
7600054	Lettuce	Gustaverde	08/24/77	08/24/1994
7600055	Lettuce	Mesaverde	05/31/77	05/31/1994
7900067	Lettuce	Commander	07/26/79	07/26/1996
8500064	Tomato	Mystro	09/30/87	09/30/2005
8700194	Tomato	Sun 1643	11/29/91	11/29/2009
8800057	Pepper	Prima Belle	09/30/88	09/30/2006
8300168	Okra	Cajun Queen	09/27/85	09/27/2003

Each of the above-referenced Plant Variety Protection Certificates are owned by Sunseeds Company (formerly known as Sunseeds Acquisition Corporation), a Delaware corporation.

8100078

CASTLEROCK

EXHIBIT A: Origin and Breeding History

PEDIGREE: (Castle Line 7X15-1A2-1-1) X UC 82-1

"Castlerock" was developed by the pedigree method of breeding. Three generations of single plant selection in the F_2-F_4 generations were followed by mass selections in the F_5-F_7 populations.

"Castlerock" has been stable and uniform through two years of cultivar testing.

U.S. DEPARTMENT OF AGRICULTURE
RECEIVED
MAR 23 1981
AMS, LPG&S DIV.
RNRO

A. L. Castle, Inc. Application for Plant Variety Protection Certificate

CASTLEROCK

EXHIBIT B: Novelty Statement

"Castlerock" is most similar to "UC 82", differing in the following characteristics:

Cultivar	Fruit/ Kilo	% Soluble Solids	Locular Structure (cross-section)	Firmness	Fruit Blossom End
Castlerock	9.8 =102	5.6	Multiple, Irregular	Very Firm	Smooth
UC 82B	17.0 = 59	4.9	2, 3, Symmetrical	Firm	Pointed


U. S. DEPARTMENT
OF AGRICULTURE
RECEIVED
MAR 23 1981
AMS, LPGMS DIV.
BMRO

INSTRUCTIONS

GENERAL: Send an original copy of the application and exhibits, at least 2,500 viable seeds, and $500 fee ($250 filing fee and $250 examination fee) to U.S. Dept. of Agriculture, Agricultural Marketing Service, Livestock, Poultry, Grain and Seed Division, Plant Variety Protection Office, National Agricultural Library Building, Beltsville, Maryland 20705. (See section 180.175 of the Regulations and Rules of Practice.) Retain one copy for your files. All items on the face of the form are self-explanatory unless noted below.

ITEM

5 Give the date the applicant determined that he had a new variety based on (1) the definition in section 41(a) of the Act and (2) the date a decision was made to increase the seed.

13a Give: (1) the genealogy, including public and commercial varieties, lines, or clones used, and the breeding method; (2) the details of subsequent stages of selection and multiplication; (3) the type and frequency of variants during reproduction and multiplication and state how these variants may be identified and (4) evidence of uniformity and stability.

13b Give a summary statement of the variety's novelty. Clearly state how this novel variety may be distinguished from all other varieties in the same crop. If the new variety most closely resembles one or a group of related varieties: (1) identify these varieties and state all differences objectively; (2) attach statistical data for characters expressed numerically and demonstrate that these differences are significant; and (3) submit, if helpful, seed and plant specimens or photographs of seed and plant comparisons clearly indicating novelty.

13c Fill in the Exhibit C, Objective Description form, for all characteristics for which you have adequate data.

13d Describe any additional characteristics that are not described, or whose description cannot be accurately conveyed in Exhibit C. Use comparative varieties as is necessary to reveal more accurately the description of characteristics that are difficult to describe, such as, plant habit, plant color, disease resistance, etc.

14a If "YES" is specified (seed of this variety be sold by variety name only as a class of certified seed) the applicant may NOT reverse his affirmative decision after the variety has either been sold and so labeled, his decision published, or the certificate has been issued. However, if the applicant specified "NO," he may change his choice. (See section 180.16 of the Regulations and Rules of Practice.)

15a See section 42 of the Plant Variety Protection Act and section 180.7 of the Regulations and Rules of Practice.

UNITED STATES DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, POULTRY, GRAIN & SEED DIVISION

APPLICATION FOR PLANT VARIETY PROTECTION CERTIFICATE

INSTRUCTIONS: *See Reverse.*

FORM APPROVED
OMB NO. 40-R3822

No certificate for plant variety protection may be issued unless a completed application form has been received (5 U.S.C. 553).

1a. TEMPORARY DESIGNATION OF VARIETY	1b. VARIETY NAME	FOR OFFICIAL USE ONLY
CASTLEX 489G	CASTLEROCK	PV NUMBER 8100078
2. KIND NAME: TOMATO	3. GENUS AND SPECIES NAME: LYCOPERSICON ESCULENTUM L	FILING DATE: 3/23/81 TIME: 12:00 A.M. P.M.
4. FAMILY NAME (BOTANICAL): SOLANACEAE	5. DATE OF DETERMINATION: October, 1980	FEE RECEIVED: $ 500.00 $ 250.00 DATE: 3/23/81 9/7/82
6. NAME OF APPLICANT(S): A. L. CASTLE, INC.	7. ADDRESS *(Street and No. or R.F.D. No., City, State, and ZIP Code)*: P. O. BOX 877 MORGAN HILL, CALIFORNIA 95037	8. TELEPHONE AREA CODE AND NUMBER: (408) 779-3141
9. IF THE NAMED APPLICANT IS NOT A PERSON, FORM OF ORGANIZATION: *(Corporation, partnership, association, etc.)*: CORPORATION	10. IF INCORPORATED, GIVE STATE AND DATE OF INCORPORATION	11. DATE OF INCORPORATION

12. NAME AND MAILING ADDRESS OF APPLICANT REPRESENTATIVE(S), IF ANY, TO SERVE IN THIS APPLICATION AND RECEIVE ALL PAPERS:

Thomas S. Castle
P. O. Box 877, Morgan Hill, California 95037

13. **CHECK BOX BELOW FOR EACH ATTACHMENT SUBMITTED:**

- [X] 13A. Exhibit A, Origin and Breeding History of the Variety *(See Section 52 of the Plant Variety Protection Act.)*
- [X] 13B. Exhibit B, Novelty Statement.
- [X] 13C. Exhibit C, Objective Description of the Variety *(Request form from Plant Variety Protection Office.)* Ack
- [X] 13D. Exhibit D, Additional Description of the Variety.

14a. DOES THE APPLICANT(S) SPECIFY THAT SEED OF THIS VARIETY BE SOLD BY VARIETY NAME ONLY AS A CLASS OF CERTIFIED SEED? *(See Section 83(a). (If "Yes," answer 14B and 14C below.)* [ ] YES [X] NO

14b. DOES THE APPLICANT(S) SPECIFY THAT THIS VARIETY BE LIMITED AS TO NUMBER OF GENERATIONS?	14c. IF "YES," TO 14B, HOW MANY GENERATIONS OF PRODUCTION BEYOND BREEDER SEED?
[ ] YES [ ] NO	[ ] FOUNDATION [ ] REGISTERED [ ] CERTIFIED

15a. DID THE APPLICANT(S) FILE FOR PROTECTION OF THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

15b. HAVE RIGHTS BEEN GRANTED THIS VARIETY IN OTHER COUNTRIES? [ ] YES [X] NO *(If "Yes," give name of countries and dates.)*

16. DOES THE APPLICANT(S) AGREE TO THE PUBLICATION OF HIS/HER (THEIR) NAME(S) AND ADDRESS IN THE OFFICIAL JOURNAL? [X] YES [ ] NO

17. The applicant(s) declare(s) that a viable sample of basic seed of this variety will be furnished with the application and will be replenished upon request in accordance with such regulations as may be applicable.

The undersigned applicant(s) is (are) the owner(s) of this sexually reproduced novel plant variety, and believe(s) that the variety is distinct, uniform, and stable as required in Section 41, and is entitled to protection under the provisions of Section 42 of the Plant Variety Act.

Applicant(s) is (are) informed that false representation herein can jeopardize protection and result in penalties.

March 20, 1981
(DATE)

Thomas S. Castle per
(SIGNATURE OF APPLICANT)
Thomas S. Castle

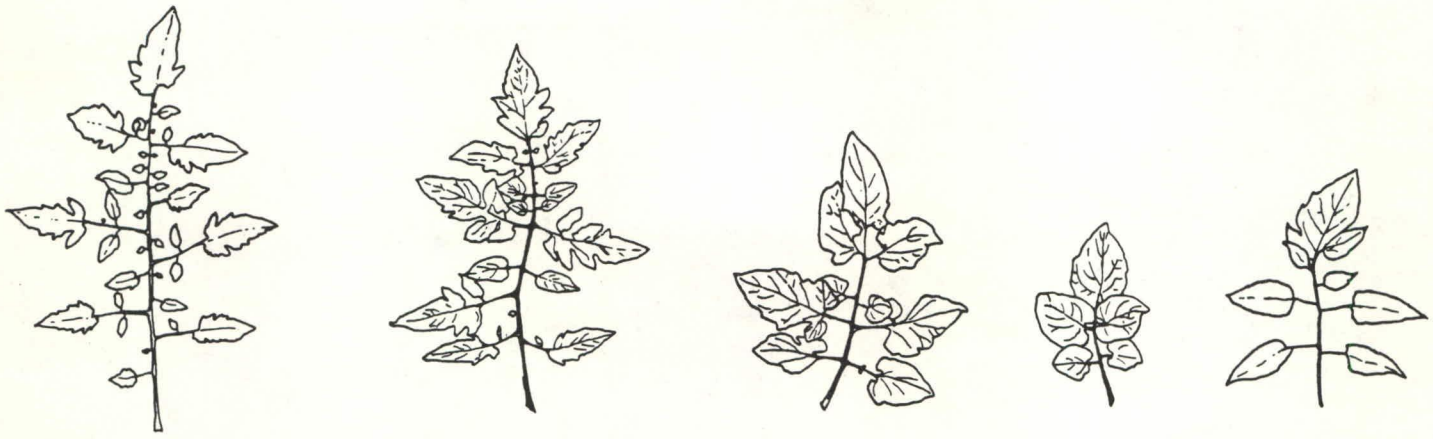
(DATE)

(SIGNATURE OF APPLICANT)

FORM GR-470 (1-78)

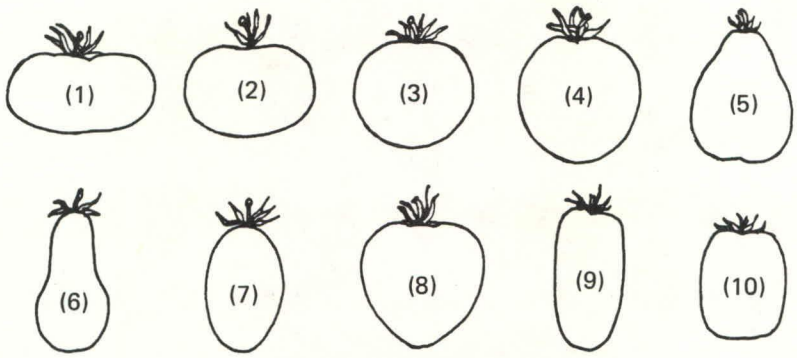
ILLUSTRATIONS OF TOMATO LEAF AND FRUIT CHARACTERISTICS

4. LEAF: Morphology:

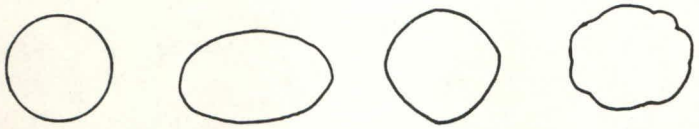


(1) (2) (3) (4) (5)

7. FRUIT: Typical fruit shape:



Shape of transverse section:



1=round 2=flattened 3=angular 4=irregular

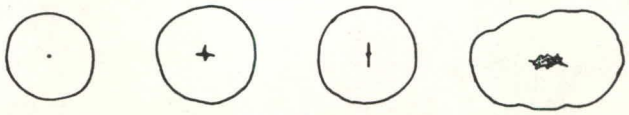
Shape of stem end:

1=flat 2=indented

Shape of blossom end:

1=indented 2=flat 3=nippled 4=tapered

Shape of pistil scar:



1=dot 2=stellate 3=linear 4=irregular

REFERENCES

Anonymous, 1976. All About Tomatoes. Ortho Books, Chevron Chemical Co., San Francisco. In three volumes: Midwest/Northeast Edition, West Edition, and South Edition

Ware, G.W. & J. P. McCollum, 1968. Producing Vegetable Crops. The Interstate Printer & Publishers, Inc., Danville, Illinois. Chapter 30, pp. 451-473, "Tomatoes".

Warnock, S.J. 1978. Using Tomato Heat Units. Leaflet No. 6, Campbell Institute for Agricultural Research, Camden, NJ. 10 p.

Webb, R.E., T. H. Barksdale, & A. K. Stoner, 1973, "Tomatoes", pp. 344-361, In: Nelson, R.R. (Ed.), Breeding Plants for Disease Resistance. Pennsylvania State University Press, University Park.

Young, P.A. & J.W. MacArthur, 1947. Horticultural characters of tomatoes. Bull. Texas Agric. Exper. Station No. 698.

8

RECEIVED
JUL 12 1982

A. L. Castle, Inc. Application for Plant Variety Protection Certificate

CASTLEROCK

EXHIBIT D: Additional Description of "Castlerock"

"Castlerock" is a mid-season maturing, blocky-shape processing tomato, Lycopersicon esculentum L.

Vines are determinate, medium size, compact mounding, with good foliage color, and medium-dark green. Immature fruits are uniformly medium green, maturing to bright red, with thick, bright red pericarp. Fruits are very firm with many scattered small locules. A moderate amount of seed is produced.

Soluble solids are high, equivalent to VF 145B-7879, while viscosity is in the medium range, comparable to UC 82. The pH is 4.23, with excellent buffering capacity.

Disease resistance is known to include Fusarium wilt, Race 1, and Verticillium wilt, Race 1.

U.S. DEPARTMENT OF AGRICULTURE
AMS, LPG&S DIV.
PVPO
RECEIVED
MAR 23 1981

8100078

PLANT VARIETY PROTECTION ASSIGNMENT

THIS PLANT VARIETY PROTECTION ASSIGNMENT ("Assignment") is made and entered into as of this ____ day of _____, 1994, ("Effective Date"), by and between Sunseeds Ltd., L.P., a Delaware limited partnership, ("Assignor"), and Sunseeds Company (formerly Sunseeds Acquisition Corporation), a Delaware corporation, ("Assignee").

WHEREAS, pursuant to a certain Asset Purchase Agreement dated March 7, 1994, Assignor has agreed to sell to Assignee substantially all of Assignor's assets used in the Assignor's business, including the United States Plant Variety Protection Certificates set forth on Schedule A attached hereto (the "PVP Certificates") and the foreign plant variety registrations set forth on Schedule B attached hereto (the "Foreign Registrations").

WHEREAS, Assignor is the sole and exclusive owner of the entire right, title and interest in, to and under the PVP Certificates and Foreign Registrations; and

WHEREAS, Assignee wishes to acquire and Assignor wishes to assign all right, title and interest in and to the PVP Certificates and Foreign Registrations.

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, Assignor does hereby sell, assign, transfer and set over to Assignee, the entire right, title and interest in and to the PVP Certificates and Foreign Registrations, for the United States and for any foreign country, for its own use and enjoyment, and for

the use and enjoyment of its successors, assigns or other legal representatives, as fully and entirely as the same would have been held and enjoyed by Assignor if this Assignment and sale had not been made; together with all claims for damages by reason of past, present or future infringement or other unauthorized use of the plants protected by the PVP Certificates and Foreign Registrations, with the right to sue for, and collect the same for its own use and enjoyment, and for the use and enjoyment of its successors, assigns, or other legal representatives.

Assignor authorizes and requests the Department of Agriculture to record Assignee as owner of the PVP Certificates and assignee of the entire right, title and interest in, to and under the same, for the sole use and enjoyment of Assignee, its successors, assigns or other legal representatives.

Assignor authorizes and requests the Ministero Per Il Coordinamento Delle Politiche Alimentare Gest. Prod. Agricole and any other organization, department or agency with jurisdiction over registration of plant varieties to record Assignee as owner of the Foreign Registrations and assignee of the entire right, title and interest in, to and under the same, for the sole use and enjoyment of Assignee, its successors, assigns or other legal representatives.

Assignor shall provide Assignee, its successors, assigns or other legal representatives, reasonable cooperation and assistance at Assignee's request (such as the execution and

delivery of any and all affidavits, declarations, oaths, exhibits, assignments, powers of attorney or other documentation as may be reasonably required) in the implementation or perfection of this Assignment.

* * * * *

IN TESTIMONY WHEREOF, the undersigned has caused this Assignment to be signed and executed this 31st day March, 1994.

Sunseeds Ltd., L.P.

By: Gerald M Prado

Name: Gerald M Prado

Title: President/CEO

STATE OF Pennsylvania)
) SS.
COUNTY OF Allegheny)

On this 31st day of March, 1994, there appeared before me Gerald M Prado, personally known to me to be the same person whose name is subscribed to the foregoing Assignment and who acknowledged that he signed the foregoing Assignment as his voluntary act and deed for the use and purpose therein set forth.

Sandra K Pack
Notary Public

Notarial Seal
Sandra K. Pack, Notary Public
Pittsburgh, Allegheny County
My Commission Expires July 26, 1997
Member, Pennsylvania Association of Notaries

Assignment

Schedule A

PLANT VARIETY PROTECTION CERTIFICATES

Current Record Owner	PV#	Crop Kind	Name of Variety	Cert. Issue Date	Expiration Date
A.L. Castle, Inc.	8100077	Tomato	Castlong ug	11/26/82	11/26/2000
	8100078	Tomato	Castlerock	11/26/82	11/26/2000
	8200139	Tomato	Castle Red	11/26/82	11/26/2000
ARCO Seed Co.	7900076	Onion	Colossal	10/18/79	10/18/96
	7900086	Onion	New Mexico White Grano PRR	10/18/79	10/18/96
	7900117	Onion	New Mexico Yellow Grano PRR	1/29/80	1/29/97
	8000039	Onion	Red Sunset	7/31/80	7/31/97
	8000040	Onion	Blanco Duro	7/31/80	7/31/97
	8000041	Onion	Brooks PRR	7/31/80	7/31/97
	8000159	Onion	Texspan PRR	6/11/81	6/11/99
	8000161	Onion	Early Grand PRR	7/30/81	7/30/99
	8100128	Onion	Glory	4/28/83	4/28/2001
	8100129	Onion	Paradise	4/28/83	4/28/2001
	8100130	Onion	Regal	4/28/83	4/28/2001
	8100166	Onion	Sweet Winter	11/26/82	11/26/2000
	8300083	Onion	Crystal Wax Pickling	12/30/83	12/30/2001
	8100001	Triticale	Jenkins	2/15/84	
	8200032	Triticale	Grace	11/15/81	
	8100150	Celery	Grande	1/13/83	
Sunseeds, Div. of Westseeds, Inc.	9100045	Tomato	Sun 6095	1/31/92	1/31/2010
Sunseeds Genetics, Inc.	7600052	Lettuce	Chaparral	5/16/77	5/16/94
	7600053	Lettuce	Costaverde	8/24/77	8/24/94
	7600054	Lettuce	Gustaverde	8/24/77	8/24/94
	7600055	Lettuce	Mesaverde	5/31/77	5/31/94
	7900067	Lettuce	Commander	7/26/79	7/26/96
	8500064	Tomato	Mystro	9/30/87	9/30/2005
	8700194	Tomato	Sun 1643	11/29/91	11/29/2009
	8900171	Cauliflower	White Diamond	4/18/89	
	8800057	Pepper	Prima Belle	9/30/88	9/30/2006
UF Genetics, Inc.	8300168	Okra	Cajun Queen	9/27/85	9/27/2003

4. LEAF (mature leaf beneath the 3rd inflorescence -- continued):

[1] Surface of major leaflets: 1 = Smooth 2 = Rugose (bumpy or veiny)

[1] Pubescence: 1 = Smooth (no long hairs) 2 = Normal 3 = Hirsute 4 = Wooly

5. INFLORESCENCE (make observations on 3rd inflorescence):

[1] Type: 1 = Simple 2 = Forked (2 major axes) 3 = Compound (much branched)

[0][5] Number of flowers in inflorescence, average

[1] Leafy or "running" inflorescences: 1 = Absent 2 = Occasional 3 = Frequent

6. FLOWER:

[1] Calyx: 1 = Normal, lobes awl-shaped 2 = Macrocalyx, lobes large, leaflike 3 = Fleshy

[2] Calyx-lobes: 1 = Shorter than corolla 2 = Approx. equalling corolla 3 = Distinctly longer than corolla

[1] Corolla color: 1 = Yellow 2 = Old gold 3 = White or tan

[1] Style pubescence: 1 = Absent 2 = Sparse 3 = Dense

[2] Anthers: 1 = All fused into tube 2 = Separating into 2 or more groups at anthesis

[2] Fasciation (1st flower of 2nd or 3rd inflorescence): 1 = Absent 2 = Occasionally present 3 = Frequently present

7. FRUIT (3rd fruit of 2nd or 3rd cluster): *For the first 5 characters below, match your variety with the most similar illustration on pg. 5 of this form.*

[3] Typical fruit shape:

[3] Shape of transverse section:

[2] Shape of stem end:

[2] Shape of blossom end:

[1] Shape of pistil scar:

---

[1] Abscission layer: 1 = Present (pedicellate) 2 = Absent (jointless)

[2] Point of detachment of fruit at harvest: 1 = At pedicel joint 2 = At calyx attachment

[ ][ ] mm length of pedicel (from joint to calyx attachment)

[0][6][7] mm length of mature fruit . . . . . [0][5][8] mm length, check var. no. . . . . [1][8]

[0][6][3] mm diameter of fruit at widest point . . . . . [0][4][4] mm diameter, check var. no. . . . . [1][8]

[0][9][7] g weight of mature fruit . . . . . [0][5][4] g weight, check var. no. . . . . [1][8]

[3] No. of locules: 1 = Two 2 = Three and four 3 = Five or more

[2] Fruit surface: 1 = Smooth 2 = Slightly rough 3 = Moderately rough or ribbed

[3] Fruit base color (mature-green stage): 1 = Light green ('Lanai', 'VF145-F5') 2 = Light gray-green ('Westover') 3 = Apple or medium green ('Heinz 1439 VF') 4 = Yellow green 5 = Dark green

[1] Fruit pattern (mature-green stage): 1 = Uniform green 2 = Green-shouldered 3 = Radial stripes on sides of fruit

[ ] Shoulder color if different from base: 1 = Dark green 2 = Grey green 3 = Yellow green

[5] Fruit color, full-ripe: 1 = White 2 = Yellow 3 = Orange 4 = Pink 5 = Red 6 = Brownish 7 = Greenish 8 = Other *(Specify)* _____

[3] Flesh color, full-ripe: 1 = Yellow 2 = Pink 3 = Red/Crimson 4 = Orange 5 = Other *(Specify)* _____

[2] Flesh color: 1 = Uniform 2 = With lighter and darker areas in walls

[3] Locular gel color of table-ripe fruit: 1 = Green 2 = Yellow 3 = Red

[2] Ripening: 1 = Blossom-to-stem end 2 = Uniform

5

FORM APPROVED: OMB NO. 0581-0055

U.S. DEPARTMENT OF AGRICULTURE
AGRICULTURAL MARKETING SERVICE
LIVESTOCK, MEAT, GRAIN AND SEED DIVISION
PLANT VARIETY PROTECTION OFFICE
BELTSVILLE, MARYLAND 20705

EXHIBIT C
(Tomato)

OBJECTIVE DESCRIPTION OF VARIETY

TOMATO *(Lycopersicon esculentum* Mill.)

NAME OF APPLICANT(S)	TEMPORARY DESIGNATION	VARIETY NAME
A. L. CASTLE, INC.	CASTLEX 489G	CASTLEROCK

ADDRESS *(Street and No., or R.F.D. No., City, State, and Zip Code)*

190 Mast Street - P. O. Box 877
Morgan Hill, CA 95037

FOR OFFICIAL USE ONLY

PVPO NUMBER

Choose responses for the following characters which best fit your variety. Complete this form as fully as possible for best characterization of the variety. When a single quantitative value is requested (e.g., fruit weight), your answer should be the mean of an adequate-sized, unbiased sample of plants. Use leading zeroes when necessary (e.g., [0][9] or [0][8][1], etc.). The applicant variety should be compared with at least one well-known standard check variety of the same type (see list of recommended check varieties below), and grown in the same trials. The characters on this form should be described from plants grown under normal conditions of culture for the variety. Indicate by a check whether trial data are from greenhouse ____ or field X plantings. Trials direct-seeded X or transplanted ____ ; staked ____ or unstaked X . Give locations and dates of seeding and transplanting here: Hollister, California
May 13, 1981 .

COMPARISONS SHOULD BE MADE TO ONE OR MORE CHECK VARIETIES IN THE FOLLOWING LIST, IF AT ALL POSSIBLE. ENTER THE* NUMBER *OF THE CHECK IN BOXES WHERE IDENTITY OF CHECK IS REQUESTED.

1 = Ace 55 VF
2 = Campbell 37
3 = Chico III
4 = Flora Dade
5 = Florida MH-1
6 = Heinz 1350
7 = Homestead 24
8 = Marglobe
9 = Murietta
10 = New Yorker
11 = Ohio MR-13
12 = Red Cherry Large
13 = Red Rock
14 = Roma VF
15 = Rutgers
16 = Sunray
17 = Tropic
18 = UC 82
19 = VF 134
20 = US 28
21 = VF 145 B 7879
22 = Other *(Specify)* ____

1. SEEDLING:

[2] Anthocyanin in hypocotyl of 2-15 cm. seedling: 1 = Absent 2 = Present

[1] Habit of 3-4 week old seedling: 1 = Normal 2 = Compact

2. MATURE PLANT (at maximum vegetative development):

[0][6][4] Cm. Height

[2] Growth: 1 = Indeterminate 2 = Determinate

[3] Form: 1 = Lax, open 2 = Normal 3 = Compact 4 = Dwarf 5 = Brachytic

[2] Size of canopy (compared to others of similar type): 1 = Small 2 = Medium 3 = Large

[2] Habit: 1 = Sprawling (decumbent) 2 = Semi-erect 3 = Erect ('Dwarf Champion')

3. STEM:

[3] Branching: 1 = Sparse ('Brehm's Solid Red', 'Fireball') 2 = Intermediate ('Westover') 3 = Profuse ('UC 82')

[2] Branching at cotyledonary or first leafy node: 1 = Present 2 = Absent

[2] No. of nodes below the first inflorescence: 1 = 1-4 2 = 4-7 3 = 7-10 4 = 10 or more

[2] No. of nodes between early (1st - 2nd, 2nd - 3rd) inflorescences.

[2] No. of nodes between later-developing inflorescences.

[2] Pubescence on younger stems: 1 = Smooth (no long hairs) 2 = Sparsely hairy (scattered long hairs) 3 = Moderately hairy 4 = Densely hairy or wooly

4. LEAF (mature leaf beneath the 3rd inflorescence):

[1] Type: 1 = Tomato 2 = Potato ('Trip-L-Crop')

[2] Morphology *(choose illustration on pg. 5 of this form that is most similar)*

[3] Margins of major leaflets: 1 = Nearly entire 2 = Shallowly toothed or scalloped 3 = Deeply toothed or cut, esp. towards base

[1] Marginal rolling or wiltiness: 1 = Absent 2 = Slight 3 = Moderate 4 = Strong

[ ] Onset of leaflet rolling: 1 = Early-season 2 = Mid-season 3 = Late season

4

9. DISEASE AND PEST REACTION (Use code: 0 = Not tested, 1 = Susceptible, 2 = Resistant -- Continued)

INSECTS AND PESTS:

[0]	Colorado potato beetle *(Leptinotarsa decemlineata)*	[0]	Tomato hornworm *(Manduca quinquemaculata)*
[1]	Southern root knot nematode *(Meloidogyne incognita)*	[0]	Tomato fruitworm *(Heliothis zea)*
[1]	Spider mites *(Tetranychus* spp.*)*	[1]	Whitefly *(Trialeurodes vaporariorum)*
[0]	Sugar beet army worm *(Spodoptera exigua)*	[ ]	Other *(Specify)* _____
[1]	Tobacco flea beetle *(Epitrix hirtipennis)*		_____

POLLUTANTS:

[0] Ozone [0] Sulfur dioxide [ ] Other *(Specify)* _____

10. CHEMISTRY AND COMPOSITION OF FULL-RIPE FRUITS: Suggested test methods may be found in "Tomato Products," 5th ed., National Canners Assn. Bull. 27-L. Please specify test methods or give a reference to methods used. Fill in table below with values for the new variety and for at least one well-known check variety of similar type grown in the same trial. Specify names or numbers of check varieties.

	SUBMITTED VARIETY	Check Variety VF145B-7879	Check Variety	Check Variety
pH	4.23	4.22		
Titratable acidity, as % citric	0.49	0.53		
Total solids (dry matter, seeds and skin removed)	6.13	6.05		
Soluble solids, as °Brix	5.4	5.6		

11. PHENOLOGY: Express length of developmental stages either as calendar days or as heat units (growing degree days), in degrees Celsius. If heat units are used, indicate the base temperature used in their calculation here _____ °C. See paper by Warnock under "References" for method. Give comparative data for at least one check variety; identify checks by name or by number from table on page 1.

	APPLICATION VARIETY	Check variety VF145B-7879	Check variety	Check variety
Seeding to 50% flower (1 open flower on 50% of plants)				
Seed to once-over harvest *(if applicable)*	128 days	125 days		

[3] Fruiting season: 1 = Long ('Marglobe') 2 = Medium ('Westover') 3 = Short, concentrated ('VF 145') 4 = Very concentrated ('UC 82')

[4] Relative maturity in areas tested: 1 = Early 2 = Medium early 3 = Medium 4 = Medium late 5 = Late 6 = Variable (if relative maturity is known to differ by location or environment, please explain on separate sheet).

12. ADAPTATION: If more than one category applies, list all in rank order.

[0][1] Culture: 1 = Field 2 = Greenhouse

[0][4][0][5] Principal use(s): 1 = Home garden 2 = Fresh market 3 = Whole-pack canning 4 = Concentrated products 5 = Other *(Specify)* product-dicing, pieces

[2] Machine harvest: 1 = Not adapted 2 = Adapted

[9][ ][1][0] [1][1] Regions to which adaptation has been demonstrated:
1 = Northeast 2 = Mid Atlantic 3 = Southeast 4 = Florida
5 = Great Plains 6 = South-central 7 = Intermountain West 8 = Northwest
9 = California: Sacramento and Upper San Joaquin Valley
10 = California: Coastal areas 11 = California: Southern San Joaquin Valley & deserts

7

7. FRUIT (3rd fruit of 2nd or 3rd cluster): Continued

[1] Ripening: 1 = Inside out 2 = Uniformly 3 = Outside in

[2] Epidermis color: 1 = Colorless 2 = Yellow

[1] Epidermis: 1 = Normal 2 = Easy-peel

[3] Epidermis texture: 1 = Tender 2 = Average 3 = Tough

[3] Thickness of pericarp . . . . . [3]

1 = Under 3 mm 2 = 3-6 mm 3 = 6-9 mm 4 = Over 9 mm

[2] Stem scar size: 1 = Small ('Roma') 2 = Medium ('Rutgers') 3 = Large

[2] Core: 1 = Coreless (absent or smaller than 6x6 mm) 2 = Present

Thickness of pericarp, check var. no. [1][8]

8. RESISTANCE TO FRUIT DISORDERS (Use code: 0 = Unknown, 1 = Susceptible, 2 = Resistant)

[0]	Blossom end rot	[0]	Catface	[0]	Fruit pox	[0]	Zippering
[0]	Blotchy ripening	[0]	Cracking, concentric	[0]	Gold fleck	[ ]	Other *(Specify)*
[0]	Bursting	[0]	Cracking, radial	[0]	Graywall		

9. DISEASE AND PEST REACTION (Use code: 0 = Not tested, 1 = Susceptible, 2 = Resistant). NOTE: If claim of novelty is based wholly or in substantial part upon disease resistance, trial data should be appended. These should specify the method of testing, the reaction of the application variety, and reaction of well-known check varieties grown in the trial (identified by name).

VIRAL DISEASES:

[0]	Cucumber mosaic	[0]	Tobacco mosaic, Race 0	[0]	Tobacco mosaic, Race 2^2
[0]	Curly top	[0]	Tobacco mosaic, Race 1	[0]	Tomato spotted wilt
[0]	Potato-Y virus	[0]	Tobacco mosaic, Race 2	[0]	Tomato yellows
[ ]	Other virus *(Specify)* _____				

BACTERIAL DISEASES:

[0]	Bacterial canker *(Corynebacterium michiganense)*	[0]	Bacterial spot *(Xanthomonas vesicatorium)*
[0]	Bacterial soft rot *(Erwinia carotovora)*	[0]	Bacterial wilt, *(Pseudomonas solanacearum)*
[0]	Bacterial speck *(Pseudomonas tomato)*	[ ]	Other bacterial disease *(Specify)* _____

FUNGAL DISEASES:

[0]	Anthracnose *(Colletotrichum* spp.*)*	[0]	Leaf mold, Race 1 *(Cladosporium fulvum)*
[0]	Brown root rot or corky root, *(Pyrenochaeta lycopersici)*	[0]	Leaf mold, Race 2
[0]	Collar rot or stem canker, *(Alternaria solani)*	[0]	Leaf mold, Race 3
[0]	Early blight defoliation, *(Alternaria solani)*	[ ]	Leaf mold, other races *(Specify)* _____
[2]	Fusarium wilt, Race 1, *(F. oxysporum f. lycopersici)*	[0]	Nailhead spot *(Alternaria tomato)*
[1]	Fusarium wilt, Race 2	[0]	Septoria leafspot *(S. lycopersici)*
[1]	Fusarium wilt, Race 3	[0]	Target leafspot *(Corynespora casiicola)*
[0]	Gray leaf spot *(Stemphylium* spp.*)*	[2]	Verticillium wilt, Race 1 *(V. albo-atrum)*
[0]	Late blight, Race 0, *(Phytophthora infestans)*	[1]	Verticillium wilt, Race 2
[0]	Late blight, Race 1	[ ]	Other fungal disease _____
		[ ]	Other fungal disease _____